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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/245,292	02/05/1999	JAY SALKINI	5195	4739

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EXAMINER

LEE, CHI HO A

ART UNIT PAPER NUMBER

2663

DATE MAILED: 01/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/245,292

Applicant(s)

SALKINI ET AL.

Examiner

Andrew Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-107 is/are pending in the application.
- 4a) Of the above claim(s) 86-104 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-85 and 105-107 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-85, 105-107, drawn to switching system with adaptive protocol conversion, classified in class 370, subclass 465.
- II. Claims 86-104, drawn to GUI operator interface, classified in class 345, subclass 326.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as protocol conversion. See MPEP § 806.05(d).

Inventions II and I are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as GUI implementation. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with John Harrop on January 22, 2002 a provisional election was made without traverse to prosecute the invention of I, claims

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1-86, and 105-107. Affirmation of this election must be made by applicant in replying to this Office action. Claims 86-104 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

6. Claim 1 is objected to because of the following informalities:

Claim 1, line 5, the "the second interface" should be – the first interface -.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application

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being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1, 12, 14 -16, 18, 19, 22, 24, 25, 27-29, 32, 33, 38, 47, 54-58, 60-62,

66-68, 70, 74, 75 and 107 are rejected under 35 U.S.C. 102(e) as being anticipated by Houde et al U.S. Patent Number 5,920,822.

Re Claims 1, 27, 47, 70, and 107, Houde et al teaches in fig 4, a MSC 84 comprising a TDMA interface (first interface), a CDMA interface (second interface) receiving and sending digital messaging and an Adjunct Processor 92 (a processing system). The Adjunct processor 92 communicates with the HLR & VLR to determine the current mobile station air interface to operate the TDMA/CDMA air interfaces of the MSC (see col. 6, lines 49-59).

Re Claims 12, 58, in view of Loude et al, the databases includes information regarding the air interface used by the mobile device. Clearly, if the MSC determines that the message is received from a CDMA base station, then it is inherent that sending mobile station is CDMA.

Re Claims 14, 54-56, 60, refer to Claim 1, fig 4 teaches the external HLR and VLR which communicate with the Adjunct processor 92 to determine the air interface protocol, wherein the HLR database includes information regarding the air interface protocol of the address mobile terminal and customer profile information.

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Re Claims 15, 16, 22, 57, 61-62, refer to Claim 1, wherein the fig 3B teaches the generic bearer data which is interpreted by the Adjunct processor 92 to determine the air interface.

Re Claim 18, 19, 66, 67, fig 4 teaches the PSTN 76.

Re Claims 20, 68, fig 4 teaches the wireless terminals 78(1-3) which encompass fixed wireless telephone, mobile telephone, and a computer with a modem.

Re Claim 24, it is inherent that MSC to perform the handoff function.

Re Claim 25, it is inherent that the MSC to set-up/reserve voice channels for the plurality of base stations.

Re Claim 28, the MSC processor manages the switching of the incoming signals.

Re Claims 29, 32, 33, the digital interface includes TDMA and CDMA interfaces.

Re Claim 38, fig 4 teaches the MSC coupled to the PSTN over wired land-lines which explicitly indicates a wired interface module.

Re Claims 74, 75, Fig 4 teaches the trunk between the MSC-BS and another trunk between PSTN-MSC for carrying control messages.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 2-5, 6, 7, 30, 31, 34, 35, 46, and 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al U.S. Patent Number 5,920,822 in view of Fletcher et al Reg. Number H1,921.

Re Claims 2-5, 31, 48-53, Houde et al teaches a MSC coupled to TDMA and CDMA interfaces. Houde et al fails to explicitly teach the specific protocol standards for message handling. However, Fletcher et al teaches a call processing architecture which allow calls that originate in accordance with one particular access technology, standard or protocol to be terminated using another access technology, standard or protocol (see col. 30, lines 11-23). One of ordinary skilled would have been motivated by Fletcher et al to include call processor architecture functions of Fletcher into the call processor Loude et al to provide interoperability among plurality of known standards and protocols. This would include standards such as: IS-634, IS-41, GSM A, IS-651, J-STD, IS-652 and GSM 09.02, CDMA, AMPS. Therefore, it would have been obvious to one ordinary skilled incorporate the teaching of Fletcher et al into the teaching of Loude et al.

Re Claims 6, 30, 34, and 35, Houde et al fails explicitly teach the receiving and sending analog messaging according to AMPS protocols. However, Fig 3A of Houde et al teaches the portion 53 can be specific to other types of air interfaces (see col. 4, lines 18-37). One of ordinary skilled would have been motivated by Houde et al to include the AMPS into the MSC to provide interoperability to other air interface protocols.

Re Claim 7, one of ordinary skilled would be motivated to compatible to employ known standards such as IS-634, ISDN PRI+, and proprietary protocols for interoperability.

Re Claim 46, refer to Claims 1 and 2, it is inherent that the specific air interface protocols to be associated with it's own processing threads.

11. Claim 8-11, 21, 23, 36, 37, 41-45, 69, 71, 72, and 76-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al U.S. Patent Number 5,920,822 in view of Beeson, Jr. et al U.S. Patent Number 5,278,890.

Re Claims 8, 11, 36 and 37, Loude et al teaches the Adjunct processor which communicates the HLR and VLR to determine the air interface (see col. 6, lines 49-59). Loude et al fails to explicitly teach the HLR and VLR integrated into the MSC. Beeson, Jr. et al teaches a modular switching system, which performs the functions of the MSC plus those of a HLR and VLR. The functions are advantageously spread among modules of the switching system, thus avoiding the getting started cost dedicated data - bases (see abstract). One of ordinary skilled would have been motivated by Beeson, Jr. et al to integrate the MSC with the HLR and VLR to reduce cost. Therefore, it would have been obvious to one ordinary skilled to incorporate the teaching of Beeson, Jr. et al into the teaching of Loude et al.

Re Claims 9, 42, 43 and 44, it is inherent that the HLR stores customer profile information.

Re Claims 21, 23, 41, 45, 69 and 71, it is inherent that the mobile equipment to be associated with the equipment identification registers. These registers are stored in HLR/VLR databases to process the call. Fig 2 of '890 teaches the authentication center integrated with MSC.

Re Claim 72, Examiner takes official notice that the MSC monitors the signal strength of the mobile communication device to initiate the handoff function.

Re Claims 76-80, Examiner takes official notice that the OAM 222 of fig 2 of '890 tracks the trunks connections between the MSC, base station, and PSTN for maintenance and recovery function.

Re Claims 81-85, Examiner takes official notice that the HLR database maintains a customer profile information including the prepaid customer information, rate plans, least cost information, desired rate plan, etc., for processing the call, wherein the call processor in the MSC use these information for connection and terminating of the call processing.

12. Claims 13 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al U.S. Patent Number 5,920,822 in view of Phillips U.S. Patent Number 6,188,898.

Re Claims 13 and 59, Loude et al fails to explicitly teach the multi-protocol base station transmitting a control message to determine the operating protocol of the mobile device. However, Phillips teaches a multimode station which is capable of operating selectively with the operating protocol of the mobile terminal by transmitting a operating instructions to the BSC/MSC so as to operate the base station serving the mobile terminal in a mode consistent with the terminal's operating protocol (see abstract). One of ordinary skilled would have been motivated by Phillips to include the multi-protocol base station to facilitate interoperability between multiple operating air interfaces.

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Therefore, it would have been obvious to one ordinary skilled to incorporate teaching of Phillips into the teaching of Loude et al.

13. Claims 17, 63-65, 105, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al U.S. Patent Number 5,920,822 in view of Duncan et al U.S. Patent Number 5,953,331.

Re Claims 17, 63-65, 105, and 106, Loude et al fails to explicitly teach the MSC comprising a ATM interface. However, Duncan et al teaches a MSC comprising an ATM switch (see fig 3). One of ordinary skilled would have been motivated by Duncan et al to include that ATM interface into the MSC to facilitate high data speed with different QoS for reliable transmission of multimedia applications. Therefore, it would have been obvious to one ordinary skilled incorporate teaching of Duncan et al into the teaching of Loude et al.

14. Claims 26, 39, 40, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al U.S. Patent Number 5,920,822 in view of Fletcher et al Reg. Number H1,921.

Re Claims 26, 39, 40, and 73, Loude et al fails to explicitly teach the GUI to operate the MSC. Fletcher et al teaches that the configuration of the telecommunication system 100 preferably accomplished by a GUI associated with a local terminal (see col. 6, lines 5-10). One of ordinary skilled would have been motivated by Fletcher et al to include the GUI into operating terminal of MSC for ease of operation. Therefore, it would have been obvious to one ordinary skilled incorporate the teaching of Fletcher et al into the teaching of Loude et al.

Response to Arguments

15. Applicant's arguments with respect to claims 1-85 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 11/16/01 have been fully considered but they are not persuasive.

Re Claims 1, 27, 47, Applicant argues that Houdes discloses the components of the switching system distributed among several different housing.

However, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Re Claims 1, 27 and 47, it is clear that the Houde et al teaches the claimed subject matter in a single housing MSC. Although, the MC is not within the same physical housing MSC, it would have been obvious to one ordinary skilled to integrate the functions of the MC 86 into the MSC 84 of fig 4 for facilitate enhanced servicing.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 703-305-1500. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone numbers

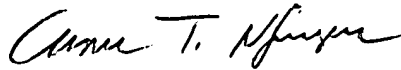
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for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Andy Lee
January 25, 2002



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